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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,493	09/10/2003	Gordon Eugene Carrier	5068	9299
25098	7590	11/03/2004	EXAMINER	
BRIANA K. O'REGAN SAPPI FINE PAPER NORTH AMERICA 225 FRANKLIN STREET BOSTON, MA 02110			STAIKOVICI, STEFAN	
			ART UNIT	PAPER NUMBER
			1732	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/659,493	CARRIER, GORDON EUGENE	
	<b>Examiner</b>	<b>Art Unit</b>	
	Stefan Staicovici	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 21-37 and 39-52 is/are pending in the application.
- 4a) Of the above claim(s) 21-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31-37 and 39-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \*   c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of group II, claims 31-37 and 39-52 in the reply filed on 10/13/2004 is acknowledged.

### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested: "Method of Making Composite Doctor Blades."
3. The abstract of the disclosure is objected to because a patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. IN this case, the abstract should describe the claimed invention of making composite doctor blades. Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 31-33, 35-37, 39-40, 48-51 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 05-132891.

Regarding claims 31-32, JP 05-132891 teaches the claimed process for making a composite doctor blade including, providing a laminate of unidirectional glass fiber fabric, impregnating said fabric laminate with a resin, wherein the content of the said unidirectional fibers is 100% (at least 60%) (see Abstract).

In regard to claim 33, JP 05-132891 teaches curing under conditions of heat and pressure.

Specifically regarding claims 35-37, JP 05-132891 teaches unidirectional (continuous) glass fibers.

Regarding claims 39-40, JP 05-132891 teaches that the content of the said unidirectional fibers is 100% (at least 75%, 90%) (see Abstract).

In regard to claims 48-49, JP 05-132891 teaches a thermoplastic (PEEK) resin and an epoxy resin.

Specifically regarding claims 50-51, JP 05-132891 teaches PPS as a resin. It is submitted that PPS has a glass transition temperature in the range of 85-315 °C.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 41, 44-46 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 05-132891 in view of Rata *et al.* (US Patent No. 6,416,843 B1).

JP 05-132891 teaches the basic claimed process as described above.

Regarding claims 41 and 44-46, JP 05-132891 does not teach secondary, non-abrasive fibers. Rata *et al.* ('843) teach a composite doctor blade including in addition to abrasive glass fibers, non-abrasive carbon fibers that are oriented in a direction perpendicular to the longitudinal axis of the doctor blade (see col. 3, lines 1-23). Therefore, it would have been obvious for one of ordinary skill in the art to have provided non-abrasive carbon fibers oriented in a direction perpendicular to the longitudinal axis of the doctor blade as taught by Rata *et al.* ('843) to the doctor blade formed by the process of JP 05-132891 because, non-abrasive carbon fibers work as a heat sink, hence avoiding thermal stresses and as such, providing for an improved product and also because, both references teach a similar product and similar materials.

In regard to claim 52, JP 05-132891 does not teach an abrasive additive. Rata *et al.* ('843) teach a composite doctor blade including in addition to abrasive glass fibers, abrasive additives, such as silicon carbide particles (see col. 3, lines 23-37). Therefore, it would have been obvious for one of ordinary skill in the art to have provided silicon carbide particles as taught by Rata *et al.* ('843) to the doctor blade formed by the process of JP 05-132891 because, Rata *et al.* ('843) specifically teach that silicon carbide particles provide a caring effect, hence providing for an

improved product and also because, both references teach a similar product and similar materials.

8. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 05-132891 in view of Frankel *et al.* (US Patent No. 4,978,999).

JP 05-132891 teaches the basic claimed process as described above.

Regarding claim 34, JP 05-132891 does not teach cutting the cured material into two or more doctor blades. Frankel *et al.* ('999) teach a process for molding composite doctor blades including, forming an impregnated fiber sheet, curing said sheet and cutting the cured sheet into two or more doctor blades (see col. 4, lines 56-68). Therefore, it would have been obvious for one of ordinary skill in the art to have cut the cured material into two or more doctor blades as taught by Frankel *et al.* ('999) in the process of JP 05-132891 because making two or more doctor blades at once increases productivity, hence reducing costs.

9. Claims 42-43 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 05-132891 in view of Rata *et al.* (US Patent No. 6,416,843 B1) and in further view of Rokman *et al.* (US 2002/0092634 A1).

JP 05-132891 in view of Rata *et al.* ('843) teaches the basic claimed process as described above.

Regarding claim 42-43 and 47, although JP 05-132891 in view of Rata *et al.* ('843) teaches glass and carbon fibers, JP 05-132891 in view of Rata *et al.* ('843) do not teach fiber diameters or fabric density. Rokman *et al.* (US 2002/0092634 A1) teach a glass or carbon fiber fabric having fibers with a diameter of 7-500 microns and a density of 50-900 g/m<sup>2</sup> (see

paragraph [0009] and the Abstract). It is submitted that both glass and carbon fibers come in these diameters. Therefore, it would have been obvious for one of ordinary skill in the art to have provided glass and/or carbon fibers having a diameter of 7-500 microns and a density of 50-900 g/m<sup>2</sup> as taught by Rokman *et al.* (US 2002/0092634 A1) in the fabric sheet in the process of JP 05-132891 in view of Rata *et al.* ('843) because, Rokman *et al.* (US 2002/0092634 A1) teach that such a fabric sheet provides for an improved product.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael P. Colaianni, can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stefan Staicovici, PhD



10/29/04

Primary Examiner

AU 1732

October 29, 2004